The Effect of Tax Reforms on the Association between Tax Avoidance and Ownership Structure

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Abstract

State-owned shares are a characteristic ownership structure of listed firms in China. This study examines the effect of the 2008 tax reforms on tax avoidance activities for firms with different ownership types. We find that the higher percentage of government-controlled shares in firms' ownership structure, the higher is the degree of tax avoidance. Furthermore, we classify government-controlled shares into directly or indirectly owned by the state and document that indirect firms have a higher complexity of hierarchical relations to conduct more tax avoidance than direct firms. However, tax avoidance behavior becomes less obvious for state-owned firms after enacting the 2008 tax reforms.

Keywords: Tax Reform, Tax Avoidance, Corporate Governance, Ownership Structure, Emerging Market

JEL Classification: K34, M40, M48

1. Introduction

This study investigates the effect of the 2008 tax reforms on tax avoidance activities of listed companies with different ownership structure in China. (Note 1) As Chen et al. (2009) indicate, different types of owners have different objectives and motivations and then affect how they exercise their control rights over firms. Khan et al. (2017) also show that increases in institutional ownership are associated with increases in tax avoidance. We classify state ownership into direct/indirect state-owned types based on their complexity of interdependent relations in the political-business process: state-owned shares (directly owned by the government), and shares owned by other state-owned legal entities (indirectly owned by the state). Before 2008, the Chinese enterprise income taxes were segmented with a severe tax law imposed on domestic firms and a preferential tax law imposed on foreign-invested firms. The dual taxation system, originally designed for accessing foreign capital, had resulted in significant disparities in tax burdens between different ownership firms. For the purpose of tax fairness, China enacted the new tax law (2008) which imposed a lower tax rate and tax preferences uniformly to both domestic- and foreign-invested firms. Prior literature in the U.S. context confirms that companies will adjust their tax avoidance strategies under a new tax regime (Scholes et al., 1992; Guenther, 1994; Lopez et al., 1998). However, few studies have explored the effect of the tax reforms on tax avoidance behavior in emerging markets.

There is a significant difference in ownership structure between China and other developed countries. The Chinese characteristic ownership has been highly concentrated in the state or state-owned firms resulting from an experiment in mixing a market economy with central planning since the early 1990s. Prior research indicates that there is a significant relationship between state-owned shares and tax avoidance activities; however, existing evidence is somewhat controversial. In the business process, indirect state-owned firms may have different motivations to employ tax avoidance activities compared to direct state-owned firms, because the former has a more complex network of related companies to implement tax-incentive transfer-pricing transactions.

Like other newly developing Asian economies, the business ethos in China over the last three decades presents several characteristics of crony capitalism. Crony capitalism is described as a political economic system where the

allocation of resources, opportunities or benefits are overwhelmingly based on personal relationships or *quanxi* in Chinese culture (Ip, 2008). This culture contains political authoritarianism, paternalism, hierarchy, and social harmony as its core elements (MacIntyre, 2006). Crony capitalism has long been seen as a prevalent phenomenon in many countries of East Asia and Latin America (MacIntyre, 2006; Haber, 2002). It is not only common across the developing economies, corporate and broader lobbying scandals in the United States are significant examples in the advanced industrial democracies (Krugman, 2002). Because tax avoidance is a risky activity that can impose significant costs on a firm, we propose that the complexity of hierarchical relations determines the extent of political intervention and affect the degree of tax avoidance activities of listed firms. We examine whether the 2008 tax reforms provide a more or less incentives for managers to employ tax avoidance activities.

Recent studies reveal two competing incentives for managers of government-controlled firms to conduct tax avoidance activities. From the government-revenue protection perspective, managers of government-controlled firm seek to protect government revenues than non-government-controlled firms. Evidences supporting this notion are Zeng (2010), Chan et al. (2013) who show that compared to government-controlled firms, non-government-controlled firms pursue a more aggressive tax strategy. However, this argument ignores an important feature that diversion activities are rather common in China (Jiang and Wei, 2001). From the resource-diversion perspective, managers of government-controlled firms are eager to conduct more tax avoidance activities to window dress their performance than non-government-controlled firms. Evidences supporting this notion are Chang and Huang (2013) and Tang and Firth (2011) who find that state-owned firms have higher tax avoidance activities.

Our empirical findings show that Chinese listed firms, on average, take less tax avoidance actions in the new tax regulatory regime. These results suggest that the main legislative contents of the 2008 tax reforms including uniformity of tax rate and anti-tax-avoidance rules have initial effects on constraining firms' tax avoidance behaviors. Second, we show that various types of ownership appear significant but different impacts on the degree of tax avoidance. Consistent with resource-diversion perspective, state-owned firms tend to employ additional tax avoidance tactics; in contrast, foreign-owned firms do not tend to take advantage of tax avoidance activities. We also find that indirect state-owned firms conduct more tax avoidance activities compared to direct state-owned firms. These findings indicate that indirect state-owned firms have a more complex interdependent relationship that provides more tax avoidance chances to bureaucrats and state agencies for their cash control right. Under the motivation of facilitating opportunistic managerial behaviors or resource diversion, indirect state-owned firms utilize additional tax avoidance tactics through more relationship-based transactions than direct state-owned firms.

Our study contributes to the literature on tax avoidance and ownership structure in several ways. First, most of previous studies on ownership structures of Chinese listed firms mainly focus on one type–state shares (Zeng, 2011; Tang and Firth, 2011), we classify ownership structures into direct state-owned, indirect state-owned, and foreign-owned; this classification allows us to clarify the different effects of ownership structure on tax avoidance. Second, a large body of literature has examined how Chinese ownership structure affects corporate investment strategy (Gul, 1999; Cull and Xu, 2005), firm performance (Qi et al., 2000; Chang and Wong, 2004; Wang, 2013), firm value or equity risk (Cho, 1998; Bai et al., 2004; Morck et al., 1988; Wei et al., 2005; Zou and Adams, 2008). We extend the literature by investigating the effect of ownership structure on firms' tax avoidance behaviors in the most important emerging economy. We provide evidence that the effect of the 2008 tax reforms on tax avoidance is conditioned on ownership structure. Finally, most research estimates book-tax differences using tax expenses and the statutory tax rate, which involves unavoidable measurement errors (Hanlon, 2003). This study eliminates the measurement error by hand-collecting the changes in income tax payable and the applicable tax rate as disclosed on the footnotes of financial reports to measure correct taxable income.

The remainder of this paper is organized as follows. Section 2 describes the institutional background and outlines our hypotheses. Section 3 presents our research design. Section 4 discusses empirical results, while Section 5 offers conclusions.

2. Institutional Background and Hypotheses Development

2.1 Tax Regulations and Tax Avoidance

Due to the tax incentive for foreign-invested firms, China's economy benefited from foreign investment, and experienced exponential growth over the last two decades of the 20th century. However, the large difference of tax burdens between foreign and domestic firms leads to rising concerns about "over favoritism" of foreign investors and unfair treatment of domestic investors (Ng, 2013). (Note 2) Following the accession to the World Trade Organization (WTO) in 2001, it becomes more important to phase out the preferential tax treatments granted to foreign investors and close the loopholes associated with the dual set of income tax laws.

On top of standardizing the income tax rate at 25% for foreign firms and domestic firms, other major changes related to the 2008 tax reforms are as follows: first, the new tax law introduces the tax residency concept, and defines resident and non-resident enterprises and their taxation scope. Second, the new tax law eliminates existing graphically based tax preferences for foreign-invested firms, and removes the tax holidays with grandfathering clauses. (Note 3) Third, it provides industry-oriented tax preferential treatments related to new high-technology products, infrastructure, environmental protection and energy saving, among others. Fourth, it enacts the General Anti-Avoidance Rules (GAAR), which contain various specific anti-avoidance provisions concerning transfer pricing, controlled foreign corporations and thin-capitalization. The predominant reason for the State Administration of Taxation (SAT) to introduce GAAR is to prevent taxpayers from using abusive or illegal mechanisms or structures with the intent to avoid, reduce or defer the timing of paying taxes (Cheung, 2012). The adoption of these anti-avoidance regulations empowers SAT to make income tax adjustments and impose interest surcharges on taxpayers. In summary, the main purpose of the new tax law is to construct a fair competition platform for both domestic firms and foreign-invested firms, and improve the corporate income tax system through prohibiting illegal tax avoidance activities.

Based on two major changes of tax regulations, we propose our first hypothesis that the incentives for listed firms to adopt tax avoidance activities are weakened following the 2008 tax reforms. First, the income tax rate decreases from 33% to 25% which is uniformly applicable to foreign-invested firms and domestic firms. Second, the new tax law enacts GAAR which empower SAT to make income tax adjustments and impose interest surcharges on taxpayers. Thus, our first hypothesis is as follows:

H1. Firms employ fewer tax avoidance activities following the enacting of the new tax law.

2.2 Ownership Structure of Listed Firms in China

To encourage the privatization of inefficient state-owned firms and gradually introduce market economy concepts into its planned-economy regime, China established stock markets in 1990 (Lin et al., 2012). Most of the listed firms are carve-outs from or spin-offs of large state-owned enterprises (Liu and Lu, 2007). The shareholders of the listed firms in China can be separated into following categories: the state, state-owned legal entities (indirectly owned by the state), other legal entities, and foreign or individual investors. To maintain effective control of these privatized state-owned shares, the Chinese government holds the former two categories of shares as non-tradable before 2005; this ownership is approximately two-thirds of all listed shares (Lin et al., 2012). These non-tradable shares can only be transferred to other institutions upon receiving approval from the Chinese government. (Note 4)

Unlike non-state-owned firms that are primarily driven by financial incentives, state-owned firms are asked to pursue non-financial objectives by the government, often related to maintain a stable employment rate or social welfare program (Dong and Putterman, 2003). The government pursues its own objectives and often limits the state-owned firms' abilities to maximize wealth for other stakeholders. Thus, the business process for state-owned firms can be quite different from firms with more non-government-controlled shares.

2.3 Ownership Structure and Tax Avoidance

The ownership structure affected the tax burden of listed firms during the pre-new tax regime. When the shareholding percentage of foreign investors equaled or exceeded 25%, these firms are regulated under the foreign tax law (i.e. they enjoyed more tax exemptions and preferences or a lower tax rate); however, both domestic firms and foreign-invested firms with less than 25% foreign ownership are regulated under the old tax law (i.e. they enjoyed less tax exemptions and preferences or a higher tax rate).

There are two competing incentives for managers of government-controlled firms to conduct tax avoidance activities. From the government-revenue protection perspective, managers of government-controlled firm strive to become the "leader" in paying taxes even at the cost of firm value (Shleifer and Vishny, 1994; Chang and Wong, 2004; Chan et al., 2013). Managers of government-controlled firms may be eager to protect government revenues than non-government-controlled firms. For example, Zeng (2011) finds that the effective tax rates of government-controlled firms are larger than those of non-government-controlled firms. Chan et al. (2013) show that non-government-controlled firms pursue a more aggressive tax strategy compared to government-controlled firms.

However, this argument ignores an important feature that diversion activities are rather common in China (Jiang and Wei, 2001). Recent studies point out that managers of government-controlled firms may collude with insiders or governmental officials to divert corporate resources for individual gains especially when their salary and compensation is quite low compared with the non-government-controlled firm (Bushman et al., 2004; Bushman and Piotroski, 2006; Wang et al., 2008; Guedhami et al., 2009; Chan et al., 2013).

In addition, Wei and Geng (2008) argue that although the managers of government-controlled firms are appointed by

state, there is a "weak control phenomenon" in corporate governance because of the characteristic of state ownership. The management chain of state-owned assets is a series of principal-agent relationships. In fact, listed companies are under the control of the agents (the governmental officials or managers) of state-owned firms (Yi, 1997). Based on this special principal-agent relationship, the officials or managers of state-owned firms do not have incentives to care seriously about increasing the firm value because they do no hold the absolute ownership of these assets. These managers of government-controlled firms are governmental bureaucrats, their promotions and career prospects are evaluated by various political and social objectives, not just maximization of firm value (Chan et al., 2013). According to La Porta et al. (1999), we argue that government-controlled firms are run not by professional managers who are unaccountable to other shareholders but by controlling shareholders (i.e., governmental officials). Zhang et al. (2014) find that controlling shareholders with excess negative relation between excess control rights and performance-based incentives. They offer preliminary evidence for rent-sharing behaviors between controlling shareholder and managers. As a result, the people (minorities) cannot effectively supervise and motivate governmental officials and managers of government-controlled firms. Thus, managers of government-controlled firms have more opportunities to allocate resources based on criteria other than market efficiency.

Under the so-called "weak monitoring scheme" in government-controlled firms, managers may increase rent-seeking by resource diversion. Tax avoidance can help managers to increase cash control right. Recent studies indicate that tax avoidance activities can mask managerial opportunism related to earnings manipulation, inside bad news and resource diversion (Chen et al., 2010; Desai and Dharmapala, 2006, 2009; Kim et al., 2011).

From the resource-diversion perspective, managers of government-controlled firms are eager to conduct more tax avoidance activities for rent-seeking or window dressing their performance than non-government-controlled firms. Consistent with this notion, Chang and Huang (2013) and Tang and Firth (2011) find state-owned firms have higher tax avoidance activities. Sun et al. (2012) indicate that firms with tight relation with government are more likely to have lower tax burden.

Taken together, we posit the following competing hypotheses:

H2-1a (government-revenue protection perspective). Firms with more government-controlled shares are engaged in fewer tax avoidance activities.

H2-1b (resource-diversion perspective). Firms with more government-controlled shares are engaged in more tax avoidance activities.

State-owned shares can be directly owned by the state or indirectly owned by state entities. Direct state-owned firms (SOEs) or indirect state-owned firms (SLEs) have different monitoring scheme in terms of hierarchical relations, the former is simpler than the latter. The former belongs to a simple agency relation which is principal (people)—agent (governmental officials)—agent (manager of SOEs) type; however, the latter is a complicated agency relation which is principal (people)—agent (governmental officials)—agent (manager of SOEs)—agent (manager of SLEs) type. SLEs have more chances to employ tax avoidance activities than SOEs through a higher complexity of hierarchical relations for transfer-pricing transactions. In light of the above arguments, we posit the following hypothesis:

H2-2. Indirect state-owned firms are engaged in more tax avoidance activities than direct state-owned firms.

Even though the statutory tax rate for both foreign tax law and old domestic tax law is 33% before 2008, the foreign tax law includes tax incentives and relief to encourage foreign investments. Examples of the preferential tax policies include a reduced tax rate to 24% or 15%, and a tax holiday for foreign-invested firms that satisfy conditions for preferential treatment. (Note 5) Based on the above arguments, we posit the following hypothesis:

H2-3. Firms with more shares held by foreign investors are engaged in fewer tax avoidance activities.

2.4 Tax Avoidance and New Tax Regulations

With respect to domestic firms, government-controlled firms would be severely affected by the GAAR due to their having more related parties. In addition, transfer-pricing arrangements through related parties witnessed stricter supervision by tax authorities during the new tax law period. Therefore, the impact of the GAAR affect government-controlled firms through the restriction of interest expense or transfer-pricing arrangements as tax shelters. Based on the competing perspectives in terms of government-revenue protection and resource-diversion, our third set of hypotheses is as follows:

H3-1a (government-revenue protection perspective). Firms with more government-controlled shares employ the same level of tax avoidance activities in the new tax regulatory regime relative to the old regime.

H3-1b (resource-diversion perspective). Firms with more government-controlled shares employ fewer of tax

avoidance activities in the new tax regulatory regime relative to the old regime.

H3-2. Indirect state-owned firms employ fewer tax avoidance activities than direct state-owned firms in the new tax regulatory regime relative to the old regime.

The anti-thin capitalization rule offsets the interest expense to the extent it relates to debt in excess of a specified debt-to-equity ratio including related parties. Under China's exchange control rules, foreign-invested firms are already subject to relatively strict foreign debt-to-equity requirements. Therefore, we expect that foreign-invested firms might not be meaningfully affected by the new anti-thin capitalization rule under most circumstances (Zhang et al., 2007). Other methods for foreign-invested firms to lower their income tax burden include changing the holding structure to insert intermediate holding companies to obtain benefits conferred by double tax agreements (Cheng and Shi, 2012). Using the protection of the five year transitional preferential policies along with new tax law, foreign-invested firms still enjoy additional tax preferential rates and exemptions and hence they are likely to have lower incentive to engage in tax avoidance activities. Based on the protection of the transitional preferential policies after 2007, foreign-invested firms still enjoy additional tax preferences for five years, the impact of new tax law on foreign-invested firms are less obvious. As such, we posit our hypothesis is as follow:

H3-3. Firms with more foreign-invested shares remain the same level of tax avoidance activities in the new tax regulatory regime relative to the old regime.

3. Sample Selection and Research Design

3.1 Initial Sample

We use the A-share market of the Shanghai and Shenzhen stock exchanges to test our hypotheses. Data on changes in income tax payable, applicable tax rates, asset impairments loss provisions and asset impairment reversals are hand-collected from the footnote disclosures in financial reports posted on the CNINF website. (Note 6) Other required financial variables and shareholding percentages are obtained from the CSMAR. The sample period runs during 2007-2009 and 2007-2012 for robustness check. (Note 7)

3.2 Research Design

Based on the link between book-tax differences/effective tax rate and tax avoidance (Shevlin, 2002; Plesko, 2004; McGill and Outslay, 2004; Desai and Dharmapala, 2006; Hanlon and Slemrod, 2009; Kim et al., 2011; Lanis and Richardson, 2012), we employ book-tax differences and tax rate differences as proxies for tax avoidance. Following the findings of Seidman (2010), we control for the earnings management, the difference between Chinese accounting standards and tax law, and general firm characteristics to extract tax-induced book-tax differences and tax rate differences. To test Hypotheses 1, 2 and 3, our empirical models are based on Desai and Dharmapala (2006), Seidman (2010) and Tang and Firth (2011) as follows:

$$\begin{aligned} BTD_{i,t}/ABTD_{i,t} \\ or \\ TRD\_ETR_{i,t}/TRD\_CETR_{i,t} \end{aligned} = \begin{aligned} &\beta_0 + \beta_1 NEIT_{i,t} + \beta_2 SOE_{i,t} + \beta_3 SLE_{i,t} + \beta_4 FIE_{i,t} \\ &+\beta_5 NEIT_{i,t}*SOE_{i,t} + \beta_6 NEIT_{i,t}*SLE_{i,t} + \beta_7 NEIT_{i,t}*FIE_{i,t} \\ &+ \Sigma\psi_q (qth\ control\ variables) + \Sigma\phi_j\ IND_j + \varepsilon_{i,t} \end{aligned} \quad (1)$$

Detailed variable definition is described as follows.

3.2.1 Measurement of Dependent Variable

The book-tax differences (*BTD*) in equation (1) is measured by the difference between reported pre-tax book income and taxable income scaled by total assets, where taxable income is defined as change in income tax payable divided by applicable income tax rate.

$$\text{Taxable Income} = \text{change in income tax payable/applicable income tax rate} \quad (2)$$

$$BTD = \text{[pre-tax book income - taxable income] / total assets} \quad (3)$$

In addition, we follow Desai and Dharmapala's (2006) model of residual book-tax differences to estimate abnormal book-tax differences (*ABTD*) as a robustness check. *ABTD* equals the residual from the following firm fixed effects regression:

$$BTD_{i,t} = \alpha_1 TAC_{i,t} + \mu_i + \varepsilon_{i,t} \quad (4)$$

where *BTD* is the total book-tax differences, defined as equation (3); *TAC* is total accruals measured as the difference

between continuing operating income and cash flow from operation, scaled by total assets.

We also adopt tax rate differences to measure the level of tax avoidance. The tax rate differences (denoted as *TRD_ETR* and *TRD_CETR*) in equation (1) are measured by the difference between the statutory tax rate and the effective tax rate (i.e., 33% minus effective tax rate before 2008 and 25% minus effective tax rate after 2008).

TRD_ETR	=	the statutory tax rate minus the effective tax rate	(5)
Effective tax rate	=	tax expenses / pre-tax income	(6)
TRD_CETR	=	the statutory tax rate minus the cash effective tax rate	(7)
Cash effective tax rate	=	cash payment of income tax/ pre-tax income	(8)

3.2.2 Measurement of Interest Variables

To examine H1 regarding whether companies adopt fewer tax avoidance activities following the enacting of the new tax law, our interest variable is *NEIT*, which is defined as an indicator variable equal to 1 in the new tax regulatory regime (2008-2009), and 0 in the old regime (2007). The prediction sign of β_1 is significantly negative.

We consider three type of ownership: percentage of shareholdings owned by the state (*SOE*), by state-owned legal entities (*SLE*), and by foreign investors (*FIE*) to investigate how these different types of ownership affect tax avoidance behavior. Under the prediction of H2-1a/H2-1b, *SOE* and *SLE* ownership types employ fewer/more tax avoidance activities, so the expected signs of β_2 and β_3 are negative (government revenue protection perspective)/ positive (resource diversion perspective). Under the prediction of H2-2, we expect that β_3 is larger than β_2. As the prediction of H2-3 is the opposite, the expected sign of β_4 is negative.

Further, we also investigate the impact of the new tax law on the relation between ownership structure and tax avoidance. Based on H3-1a/H3-1b, firms with more *SOE* or *SLE* tend to utilize same/fewer tax avoidance activities in the new tax regulatory regime, so the expected signs of β_5 and β_6 are insignificant (government revenue protection perspective)/ negative (resource diversion perspective). Under the prediction of H3-2, we expect that β_6 is smaller than β_5. As the prediction of H3-3, the β_7 is expected insignificant.

3.2.3 Control Variables

This paper employs several control variables following prior studies. We use discretionary accrual (*DA*) as the proxy for earnings management where *DA* is measured from the modified Jones model (Dechow et al., 1995). The coefficient of *DA* is expected to be positive.

Considering the impact of the regulatory differences between Chinese accounting standards and tax law on the level of tax avoidance, we include several variables to control possible effects. First, *IAR* is defined as the allowance for uncollectible accounts divided by total asset. Second, *TS* and *TDL* are defined as financial assets divided by total assets, and financial liabilities divided by total assets. Third, *EL* is defined as anticipated liabilities divided by total assets. Fourth, we measure *FAD* which is defined as the accumulated depreciation from fixed assets divided by total assets. Fifth, *TIMP* and *SRVSA* are defined as the provision of asset impairment loss and its reversals divided by total assets. Finally, as the effects of the differences between Chinese accounting standards and tax law on the level of tax avoidance are uncertain, we do not estimate the signs of these variables.

To control for firm characteristics and industry environment changes that could influence the level of tax avoidance, several variables are included in equation (1) based on previous work in this area (Chang and Huang, 2013; Huang and Chang 2016). *LOSS* is defined as an indicator variable equal to 1 for firms suffering a loss in the previous year, and 0 otherwise. We predict that the sign for *LOSS* is positive. *IA* is defined as intangible assets divided by total assets and the capital intensity (*FA*) is defined as the ratio of fixed assets to total assets. Long term investment (*LI*) is defined as the ratio of long term investment to total assets. The coefficients for *IA*, *FA* and *LI* are uncertain regarding their effects on tax avoidance. As such, we do not predict the signs of these three coefficients. Further, we employ *IVR*, *INV*, *LEV* and *SIZE* to control investment intensity, inventory intensity, leverage, and firm size. *IVR* is defined as investment income divided by total assets. *INV* is measured as ending inventory divided by total assets, and *LEV* is calculated as total liabilities divided by total assets. We do not predict the signs for *IVR*, *INV* and *LEV*. The firm size (*SIZE*) is measured by the natural logarithm of total assets. In addition, we include an industry indicator variable (*IND*) to control for the potential impact of different industry tax preferences on tax avoidance.

4. Empirical Results

4.1 Sample and Descriptive Statistics

Table 1 outlines our sample selection process. We start with all observations available on the CSMAR database with non-missing asset data for the years 2007-2009 (exclude firms in the financial or banking services industry), where this initial data includes 5,721 firm-years. We drop 391 observations because they lack the ownership structure data, and another 258 observations due to missing applicable tax rate data. Finally, we drop 1,415 observations because of missing data required to compute book-tax differences, effective tax rate or other variables in our regression. This leaves us with a final sample of 3,657 firm-years.

Table 1, Panels B and C show the sample by year and by industry. Manufacturing industries comprise 1,981 firm-years, which makes up 54.17% of our sample, with machinery at 14.60%, and petroleum, chemical products, and plastics at 9.93%. Non-manufacturing industries comprise 1,676 firm-years, which make up 45.83% of our sample.

Table 2 summarizes the descriptive statistics for all variables in equation (1). All of the continuous variables are winsorized at 1 percent and 99 percent to minimize the potential influence of extreme values. Panel A shows that the mean (median) of *BTD* and *ABTD* are 0.0012 (0.0184) and -0.0026 (0.0013), suggesting that aggregate Chinese book-tax differences in A-shares are generally positive. The mean (median) of *TRD_ETR* and *TRD_CETR* are 0.0861 (0.0998) and 0.1456 (0.2122), suggesting that the effective tax rates are less than statutory tax rate in A-shares. SOEs represent a significant proportion of ownership in China. The means (medians) of *SOE*, *SLE* and *FIE* are 21.33% (15.79%), 11.36% (0.00%), and 0.87% (0.00%), respectively. Aside from the variables in equation (1), Panel A in Table 2 also reports the descriptive statistics for *TR* and *CTR*, which are defined as the applicable tax rate and changes in the applicable tax rate. The means (medians) of *TR* and *CTR* are 22.25% (25%) and -1.34% (0.00%), suggesting that the applicable tax rate decreases during our sample years.

Panel B to Panel E in Table 2 show the means and medians of *BTD*/*ABTD* and *TRD_ETR/TRD_CETR* by years. These results indicate that the means and medians of *BTD*/*ABTD* and *TRD_ETR/TRD_CETR* in the new tax regime are smaller than those in the old tax regime. Tests of the differences in the *BTD*/*ABTD* and *TRD_ETR/ TRD_CETR* between the two tax regimes show that values in the new tax regime are significantly smaller than those in the old tax regime. These results indicate that *BTD*/*ABTD* and *TRD_ETR/ TRD_CETR* decreased significantly following the enacting of the new tax law.

Table 1. Sample selection

Panel A: Full sample	# of obs.	
Total sample of A-share firms (excluding Banking and Insurance)	5,721	
Less: Firms lacking requisite ownership structure data	(391)	
Less: Firms lacking requisite tax rate data	(258)	
Less: Firms lacking requisite accounting number data	(1,415)	
Total firm-year observations	3,657	
Panel B: Sample by year	**# of obs.**	**percentage**
2007	1,222	33.42%
2008	1,238	33.85%
2009	1,197	32.73%
Total firm-year observations:	3,657	100%
Panel C: Industry distribution	**# of obs.**	**percentage**
Manufacturing		
Food, Beverage	175	4.79%
Textile, Clothing, Leather Fiber	122	3.34%
Paper, Printing	56	1.53%
Petroleum, Chemical Products, Plastics	363	9.93%
Electrical Equipment	138	3.77%
Metal, Non-metal Mineral Products	301	8.23%
Machinery	534	14.60%
Medicine, Biological Products	277	7.57%
Others	15	0.41%
Non-manufacturing		
Agriculture	69	1.89%
Mining	99	2.71%
Transportation, Storage	174	4.76%
Real Estate	320	8.75%
Tourism, Hotel	68	1.86%
Utilities	186	5.09%
Intelligent Technology	191	5.22%
Retail	273	7.47%
Transmission and Entertainment	29	0.79%
Personal and Social Service	40	1.09%
Conglomerate	154	4.21%
Others	73	2.00%
Total firm-year observations	3,657	100%

Table 2. Descriptive statistics

Panel A: Descriptive statistics for variables							
	N	Mean	Median	Minimum	Q1	Q3	Maximum
BTD	3657	0.0012	0.0184	-0.4915	-0.0062	0.0493	0.2588
ABTD	3657	-0.0026	0.0013	-0.3073	-0.0156	0.0192	0.3119
TRD_ETR	3657	0.0861	0.0998	0.0000	0.0033	0.2171	0.3300
TRD_CETR	3657	0.1456	0.2122	0.0000	0.1224	0.2500	0.3300
NEIT	3657	0.6658	1.0000	0.0000	0.000	1.0000	1.0000
SOE	3657	0.2133	0.1579	0.0000	0.0000	0.4055	0.8629
SLE	3657	0.1136	0.0000	0.0000	0.0000	0.2003	0.8900
FIE	3657	0.0087	0.0000	0.0000	0.0000	0.0000	0.5920
Applicable tax rate and change of applicable tax rate							
TR	3657	0.2225	0.2500	0.1000	0.1500	0.2500	0.3300
CTR	3657	-0.0134	0.0000	-0.1300	-0.0400	0.0000	0.1800
Control variable: Earnings management							
DA	3657	0.0051	-0.0124	-0.2935	-0.0866	0.0667	0.2906
Control variable: Differences between Chinese accounting standards and tax law							
IAR	3657	0.0062	0.0015	-0.0004	-0.0003	0.0047	0.1330
TS	3657	0.0016	0.0000	0.000	0.0000	0.0001	0.0509
TDL	3657	0.0001	0.0000	0.0000	0.0000	0.0000	0.0031
EL	3657	0.0073	0.0000	0.0000	0.0000	0.0000	0.2785
FAD	3657	0.1644	0.1295	0.0111	0.0650	0.2248	0.7108
TIMP	3657	0.0062	0.0007	0.0000	0.0000	0.0047	0.1176
SRVSA	3657	0.0002	0.000	0.000	0.000	0.000	0.0056
Control variable: Firm characteristics							
LOSS	3657	0.1258	0.0000	0.0000	0.0000	0.0000	1.000
IVR	3657	0.0104	0.0016	-0.0170	0.0000	0.0108	0.1432
IA	3657	0.0515	0.0295	0.0000	0.0099	0.0636	0.3769
FA	3657	0.2803	0.2458	0.0023	0.1299	0.4093	0.7871
INV	3657	0.1822	0.1388	0.0004	0.0637	0.2388	0.7641
LI	3657	0.0530	0.0198	0.0000	0.0031	0.0630	0.4561
LEV	3657	0.5329	0.5429	0.0828	0.3975	0.6743	0.8785
SIZE	3657	14.7809	14.6956	11.9000	13.9000	15.5000	18.4000

Panel B: Descriptive Statistics for *BTD* by Year							
Year	N	Mean	Median	Minimum	Q1	Q3	Maximum
2007	1222	0.0249	0.0228	-0.4213	0.0009	0.0568	0.2588
2008	1238	0.0025	0.0149	-0.4565	-0.0178	0.0458	0.2270
2009	1197	0.0057	0.0174	-0.4565	-0.0057	0.0464	0.2270
Difference tests for *BTD* in new regime (2008-2009) versus in old regime (2007)							
t-value for mean difference			-3.18***				
z-value for median difference			-5.67***				

Panel C: Descriptive Statistics for *ABTD* by Year							
Year	N	Mean	Median	Minimum	Q1	Q3	Maximum
2007	1222	0.0219	0.0091	-0.4915	-0.0086	0.0307	0.2588
2008	1238	-0.0064	-0.0020	-0.3103	-0.0210	0.0152	0.2937
2009	1197	-0.0067	-0.0002	-0.3103	-0.0175	0.0130	0.2937
Difference tests for *ABTD* in new regime (2008-2009) versus in old regime (2007)							
t-value for mean difference			-3.86***				
z-value for median difference			-11.20***				

Table 2. Descriptive statistics (continued)

Panel D: Descriptive Statistics for *TRD_ETR* by Year

Year	N	Mean	Median	Minimum	Q1	Q3	Maximum
2007	1222	0.1205	0.1508	0.0000	0.0222	0.2474	0.3300
2008	1238	0.0724	0.0892	0.0000	0.0018	0.2088	0.2500
2009	1197	0.0625	0.0792	0.0000	0.0012	0.1705	0.2500

Difference tests for *TRD_ETR* in new regime (2008-2009) versus in old regime (2007)

t-value for mean difference	-8.76***
z-value for median difference	-10.06***

Panel E: Descriptive Statistics for *TRD_CETR* by Year

Year	N	Mean	Median	Minimum	Q1	Q3	Maximum
2007	1222	0.1943	0.2601	0.0000	0.1625	0.3152	0.3300
2008	1238	0.1206	0.2029	0.0000	0.1098	0.2500	0.2500
2009	1197	0.1217	0.1858	0.0000	0.1009	0.2465	0.2500

Difference tests for *TRD_CETR* in new regime (2008-2009) versus in old regime (2007)

t-value for mean difference	-10.32***
z-value for median difference	-20.40***

Table 3 presents the correlations for all variables, and shows a significantly negative correlation between *BTD/ABTD* and *NEIT*, and *TRD_ETR/TRD_CETR* and *NEIT*, indicating that book-tax differences and tax rate differences become smaller following the enacting of the new EITL. As for the relation between *BTD/ABTD* and *SOE*, and *TRD_ETR/TRD_CETR* and SOE, initially consistent with our prediction, *SOE* is significantly and positively correlated with *BTD*, *TRD_ETR* and *TRD_CETR*, which shows that the higher the percentage of state-owned shares, the larger is the level of book-tax differences or tax rate difference. However, the correlation coefficients of *SLP*/*FIE* and *BTD*/*ABTD* are not significant.

In addition, *DA*, *TIMP*, *SRVSA*, *LOSS, IVR* and *SIZE* are significantly and positively correlated with *BTD*/*ABTD* and *TRD_ETR/TRD_CETR*; these results show that larger firms, firms with losses in the previous year, or firms with larger asset impairment losses or reversals increase *BTD*/*ABTD* or *TRD_ETR/TRD_CETR*. We also find that *BTD*/*ABTD* or *TRD_ETR/TRD_CETR* is significantly and negatively correlated with *IAR*, *EL*, *FA* and *LEV*. Finally, the highest variance inflation factor (VIF) is less than 6.845, suggesting that multicollinearity is not a serious problem in our empirical models.

Table 3. Correlation Matrix

	BTD	*ABTD*	*TRD_ETR*	*TRD_CETR*	*NEIT*	*SOE*	*SLE*	*FIE*	*CTR*	*TR*	*DA*	*IAR*	*TS*	*TDL*	*EL*	*FAD*	*TIMP*	*SRVSA*	*LOSS*	*IVR*	*IA*	*FA*	*INV*	*LI*	*LEV*
ABTD	0.801***																								
TRD_ETR	0.084***	0.034**																							
TRD_CETR	0.231***	0.046***	0.441***																						
NEIT	-0.031**	-0.042***	-0.143***	-0.165***																					
SOE	0.028**	0.002	0.037**	0.067***	-0.209***																				
SLE	-0.020	0.009	0.005	0.056***	-0.163***	-0.349***																			
FIE	-0.002	-0.001	0.037**	0.012	-0.052***	-0.039***	-0.021																		
CTR	-0.015	0.008	-0.131***	-0.040**	-0.168***	-0.076***	-0.019	0.009																	
TR	0.018	0.015	0.078***	0.069***	-0.272***	0.044***	0.132***	-0.016	0.024*																
DA	0.029**	0.018	0.036**	-0.001	0.031**	-0.039***	0.021	-0.012	0.040***	0.003															
IAR	-0.786***	-0.588***	-0.156***	0.005	0.010	-0.026*	0.035**	-0.006	0.016	0.000	0.015														
TS	0.019	0.007	-0.001	0.011	-0.015	-0.037***	0.036**	0.002	-0.002	-0.011	-0.002	-0.005													
TDL	-0.002	-0.005	0.035**	-0.002	0.031**	0.027*	-0.014	0.021	-0.003	-0.019	-0.005	-0.003	0.006												
EL	-0.136***	-0.073***	-0.091***	-0.010	-0.030**	-0.034**	0.069***	0.005	0.032**	0.031**	0.031**	0.178***	-0.013	-0.005											
FAD	-0.032**	-0.014	0.129***	0.116***	0.020	0.053***	-0.068***	0.036**	0.002	0.013	0.068***	0.014	-0.014	0.010	0.035**										
TIMP	0.086***	0.079***	0.170***	0.066***	0.023	-0.024*	0.044***	-0.002	0.002	0.007	0.068***	0.162***	-0.014	-0.004	0.251***	0.077***									
SRVSA	0.637***	0.554***	0.041**	0.003	0.010	-0.017	0.019	-0.007	0.033**	-0.007	0.061***	0.656***	-0.009	-0.004	0.160***	0.038***	0.168***								
LOSS	0.099***	0.010	0.106***	-0.010	-0.010	-0.071***	0.045***	-0.026*	0.069***	0.028**	0.072***	0.069***	-0.023	-0.008	0.091***	0.129***	0.141***	0.097***							
IVR	0.029**	0.028**	0.058***	0.015	-0.054***	-0.050***	0.040***	-0.019	0.056***	-0.010	0.004	0.025*	0.088***	-0.007	0.131***	-0.011	0.046***	-0.002	0.046***						
IA	-0.009	-0.001	-0.007	-0.063	0.031**	0.050***	-0.019	-0.023	-0.034**	0.063***	-0.011	-0.010	-0.035**	-0.007	0.001	0.022	0.004	-0.020	0.049***	-0.030**					
FA	-0.047***	-0.022	-0.081***	0.131***	-0.029**	0.112***	-0.122***	0.067***	-0.039***	0.035**	-0.022	0.052***	-0.063***	0.023	-0.010	0.336***	0.041***	0.020	0.082***	-0.122***	0.009				
INV	0.014	0.001	-0.129***	0.135***	0.024*	-0.053***	0.113***	0.010	0.004	0.047***	0.022	-0.023	-0.047***	0.008	-0.038***	-0.199***	-0.033**	0.037***	-0.059***	-0.077***	-0.232***	-0.482***			
LI	0.003	0.011	0.107***	0.048***	0.007	-0.049***	-0.022	-0.037***	0.055***	-0.012	0.005	-0.003	-0.005	0.011	0.051***	-0.055***	0.023	-0.019	0.024*	0.387***	-0.059***	-0.165***	-0.189***		
LEV	-0.496***	-0.152***	0.024	-0.059***	0.008	-0.051***	0.097***	0.019	0.037***	0.023*	0.075***	0.423***	-0.040***	0.008	0.582***	0.057***	0.277***	0.297***	0.185***	0.050***	0.007	0.058***	0.009	0.002	
SIZE	0.098***	0.017	0.091***	0.057***	0.089***	0.217***	-0.233	0.029**	0.006	-0.042***	-0.112***	-0.070***	-0.048***	0.104***	-0.155***	-0.072***	-0.138***	-0.065***	-0.232***	-0.058***	-0.084***	0.081***	0.044***	-0.060***	-0.152***

Note: ***, **, and * indicate significance at 1%, 5%, and 10% levels, respectively (two-tailed).

Table 4. Regression results for tax avoidance on new tax law and firm ownership

Panel A: book-tax differences as dependent variables, full sample (N=3,657)						
Variables	Parameter	Expected Sign	*BTD* as dependent variable		*ABTD* as dependent variable	
			Coefficient	t-value	Coefficient	t-value
Intercept		none	-0.038	-0.86	0.140 ***	4.94
NEIT	β_1	−	-0.011 **	-1.74	-0.009	-0.91
SOE	β_2	+/−	0.064 **	1.97	0.039 **	1.84
SLE	β_3	+/−	0.164 ***	4.44	0.081 ***	3.37
FIE	β_4	−	0.007	0.08	-0.054	-0.93
*NEIT*SOE*	β_5	−	-0.059 *	-1.63	-0.047 *	-1.55
*NEIT*SLE*	β_6	−	-0.157 ***	-3.65	-0.152 ***	-2.85
*NEIT*FIE*	β_7	−	-0.088	-0.74	0.038	0.49
DA		+	0.011 ***	4.41	-0.002	-1.27
IAR		none	-0.800 ***	-20.2	0.561 ***	21.87
TS		none	0.184	0.8	0.064	0.43
TDL		none	-0.719	-0.94	0.603	1.21
EL		none	0.340 ***	17.21	-0.062 ***	-4.86
FAD		none	-0.022	-0.86	0.020	1.22
TIMP		none	-1.264 ***	-18.21	0.869 ***	19.32
SRVSA		none	4.060 ***	2.66	-1.467	-1.48
LOSS		+	-0.004	-0.48	0.021 ***	3.57
IVR		none	0.766 ***	9.13	-0.086	-1.59
IA		none	-0.062	-1.49	0.011	0.41
FA		none	0.061 ***	2.69	-0.035 ***	-2.36
INV		none	0.031	1.24	-0.030 **	-1.86
LI		none	-0.084 **	-2.31	0.064 ***	2.73
LEV		none	-0.083 ***	-12.86	0.049 ***	11.62
SIZE		none	0.005 *	1.87	-0.010 ***	-5.91
Industry Fixed Effect		none	yes		yes	
F-value			34.54 ***		43.11 ***	
Adjusted R^2			0.3588		0.4127	
Tests for H2-2 and H3-2						
H2-2: β_3-β_2>0			0.100 **	2.02	0.042 *	1.39
H3-2: β_6-β_5<0			-0.098 ***	-4.75	-0.105 **	-1.83

Note: ***, **, and * indicate significance at 1%, 5%, and 10% levels, respectively; one-tailed where signs are predicted, two-tailed otherwise.

4.2 Tests of Hypotheses

Table 4 presents the results for the estimation of equation (1). Consistent with H1, companies adopt fewer tax avoidance activities following the enacting of the new tax law. The *NEIT* coefficient of -0.011 (*BTD* as dependent variable) is negative and significant, being consistent with the descriptive statistics findings (presented in Table 2, Panel B). In table 4 Panel B, the *NEIT* coefficient of -0.042 (*TRD_ETR* as dependent variable) and -0.084 (*TRD_CETR* as dependent variable) are negative and significant, being consistent with the descriptive statistics findings (presented in Table 2, Panels D and E). These results suggest that the 2008 tax reforms reduce firms' tax avoidance incentives through providing a lower statutory tax rate and implementing GAAR.

Table 4. Regression results for tax avoidance on new tax law and firm ownership

Panel B: tax rate differences as dependent variables, full sample (N=3,657)						
Variables	Parameter	Expected Sign	*TRD_ETR* as dependent variable		*TRD_CETR* as dependent variable	
			Coefficient	t-value	Coefficient	t-value
Intercept		none	0.240 ***	4.90	0.077	1.00
NEIT	β_1	−	-0.042 ***	-2.59	-0.084 ***	-4.10
SOE	β_2	+/−	0.050 *	1.45	0.068 *	1.42
SLE	β_3	+/−	0.100 **	1.68	0.108 **	1.64
FIE	β_4	−	0.005	0.80	0.003	0.08
*NEIT*SOE*	β_5	−	-0.080 **	-1.75	-0.021	-0.43
*NEIT*SLE*	β_6	−	-0.169 ***	-2.45	-0.091 *	-1.55
*NEIT*FIE*	β_7	−	-0.047	-1.31	-0.030	-0.19
DA		+	-0.006	-0.38	-0.027	-1.39
IAR		none	0.780 ***	3.79	0.059	0.23
TS		none	0.182	0.38	-0.372	-0.61
TDL		none	21.022 ***	2.49	-3.717	-0.35
EL		none	-0.005	-0.05	-0.273 **	-2.15
FAD		none	0.000	-0.01	0.084 **	2.28
TIMP		none	1.020 ***	5.05	0.822 ***	3.23
SRVSA		none	-0.776	-0.2	-2.670	-0.55
LOSS		+	0.019 *	1.87	-0.007	-0.57
IVR		none	0.114	0.88	-0.045	-0.28
IA		none	-0.013	-0.26	-0.327 ***	-3.18
FA		none	0.037	1.49	-0.204	0.17
INV		none	-0.024	-0.85	0.005	-0.5
LI		none	0.214 ***	4.96	-0.017	1.25
LEV		none	0.025	1.30	0.068	-1.56
SIZE		none	-0.006 **	-2.00	-0.037 ***	3.85
Industry Fixed Effect		none	yes		yes	
F-value			9.49 ***		7.13 ***	
Adjusted R^2			0.1263		0.0909	
Tests for H2-2 and H3-2						
H2-2: β_3-β_2>0			0.050 *	1.38	0.040 *	1.48
H3-2: β_6-β_5<0			-0.089 **	-1.73	-0.070 **	-1.66

Note: ***, **, and * indicate significance at 1%, 5%, and 10% levels, respectively; one-tailed where signs are predicted, two-tailed otherwise.

The *SOE* coefficients of 0.064 (*BTD* as dependent variable), 0.039 (*ABTD* as dependent variable), 0.050 (*TRD_ETR* as dependent variable) and 0.068 (*TRD_CETR* as dependent variable) are positive and significant, suggesting that after taking the control variables into account, firms with more *SOE* shares show more *BTD*/*ABTD* and *TRD_ETR*/*TRD_CETR*. Next, the *SLE* coefficients of 0.164 (*BTD* as dependent variable), 0.081 (*ABTD* as dependent variable), 0.100 (*TRD_ETR* as dependent variable) and 0.108 (*TRD_CETR* as dependent variable) are all positive and significant, suggesting that firms with more *SLE* also have incentive to reduce their taxable income base. These

results are consistent with H2-1b, and support the notion that firms with more *SOE* or *SLE* have greater resources available to lobby on tax issues or plan tax-reducing activities, leading to reduce taxable bases (i.e., larger book-tax differences and tax rate differences).

After taking the control variables into consideration, our results are consistent with resource diversion perspective (Tang and Firth, 2011; Sun et al., 2012; Chang and Huang, 2013) which suggest that firms with more shares owned by state and state-owned legal entity employ more tax avoidance behaviors. We also test the difference between β_3 and β_2 (coefficients on *SLE* and *SOE*), and find that the former is significant larger than the latter (t-value of 2.02, 1.39, 1.38 and 1.48 at the 5% and 10% significance level). These results are consistent with H2-2, indicating that firms with a larger *SLE* have a more complex hierarchical relationship and tend to engage in additional tax avoidance activities as compared to firms with a larger *SOE*. Finally, the *FIE* coefficients are insignificant in both settings, inconsistent with H2-3.

With respect to the effect of the new tax regulations on tax avoidance, the coefficients on the interaction term *NEIT*SOE* of -0.059 (*BTD* as dependent variable), -0.047 (*ABTD* as dependent variable), -0.080 (*TRD_ETR* as dependent variable) are negative and significant (at the 5% or 10% significance level). Also, the *NEIT*SLE* coefficients of -0.157 (*BTD* as dependent variable), -0.152 (*ABTD* as dependent variable), -0.169 (*TRD_ETR* as dependent variable) and -0.091 (*TRD_CETR* as dependent variable) are negative and significant. These results are consistent with H3-1b that the anti-avoidance provision along with the new tax law weakens the tax avoidance incentive for firms with more state-owned shares.

Similarly, consistent with H3-2 the mitigation effect of the provision of anti-avoidance regulations associated with the new tax law is stronger for SLE firms than SOE firms. The test of difference between β_6 and β_5 (coefficients on *SLE*NEIT* and *SOE*NEIT*) is significantly negative at the 1% or 5% level. Finally, the NEIT*FIE coefficients of -0.088, 0.038, -0.047 and -0.030 are all insignificant, consistent with H3-3, indicating that firms with more foreign-invested shares do not change their tax avoidance incentive in the new tax regime.

4.3 Additional Analyses

To examine how the applicable tax rate (*TR*) affects tax avoidance behavior, we further separate our sample into *TR* unchanged, decreased and increased subsamples. Table 5 shows the results for the *TR* unchanged subsample; the evidence supports the expectations noted for H1, H2-1b, H2-2, H3-1b, H3-2, and H3-3. For firms with greater *SOE* or *SLE* still conduct more tax avoidance behaviors during our sample period, and the coefficient of *SLE* is significant greater than that of *SOE*. However, relative to the old tax regime, firms with greater *SOE* or *SLE* engage in fewer tax avoidance activities in the new tax regime. Even though the applicable income tax rate is unchanged, firms facing a more fair tax law and anti-avoidance rules embedded into the tax reforms have less incentive to adopt tax avoidance activities. The impact from new tax law on *SLE* is significant stronger than it on *SOE* which is consistent with H3-2. Again, the new tax law has no significant effect on *FIE* which is consistent with H3-3.

Table 5. Regression results for tax avoidance on new tax law and firm ownership

Panel A: book-tax differences as dependent variables

subsample of applicable tax rate unchanged firms (N=1,559)

Variables	Parameter	Expected Sign	*BTD* as dependent variable		*ABTD* as dependent variable	
			Coefficient	t-value	Coefficient	t-value
Intercept		none	-0.111 **	-2.36	0.036	0.89
NEIT	β_1	−	-0.011 *	-1.32	-0.006	-0.28
SOE	β_2	+/−	0.055 **	1.64	0.049 **	1.78
SLE	β_3	+/−	0.160 ***	4.17	0.094 ***	2.89
FIE	β_4	−	-0.019	-0.16	0.025	0.25
*NEIT*SOE*	β_5	−	-0.060 **	-1.64	-0.053 *	-1.56
*NEIT*SLE*	β_6	−	-0.226 ***	-4.86	-0.130 ***	-3.29
*NEIT*FIE*	β_7	−	-0.001	-0.02	-0.079	-0.46
DA		+	0.005	1.43	-0.006 **	-2.27
IAR		none	-0.446 ***	-4.03	-0.682 ***	-7.28
TS		none	0.214	0.76	-0.052	-0.22
TDL		none	0.194	0.2	0.130	0.16
EL		none	0.408 ***	22.31	0.031 **	2.01
FAD		none	-0.020 **	-2.31	-0.015 **	-1.99
TIMP		none	-2.003 ***	-28.41	-1.510 ***	-25.25
SRVSA		none	-2.215	-0.85	1.338	0.61
LOSS		+	-0.011	-1.20	0.049 ***	6.18
IVR		none	0.522 ***	4.91	0.388 ***	4.31
IA		none	-0.085 **	-2.04	0.874	0.88
FA		none	0.066 ***	2.94	0.031 *	1.78
INV		none	0.021	0.78	0.034	0.45
LI		none	-0.063	-1.55	-0.010	-0.64
LEV		none	-0.045 ***	-6.41	-0.022 ***	-3.82
SIZE		none	0.007 **	2.54	0.023 ***	2.68
Industry Fixed Effect		none	yes		yes	
F-value			17.12 ***		7.65 ***	
Adjusted R^2			0.4265		0.2347	
Tests for H2-2 and H3-2						
H2-2: β_3-β_2>0			0.105 **	2.08	0.045 *	1.51
H3-2: β_6-β_5<0			-0.166 ***	-2.75	-0.077 ***	-2.39

Note: ***, **, and * indicate significance at 1%, 5%, and 10% levels, respectively; one-tailed where signs are predicted, two-tailed otherwise.

Table 5. Regression results for tax avoidance on new tax law and firm ownership

Panel B: tax rate differences as dependent variables

subsample of applicable tax rate unchanged firms (N=1,559)

Variables	Parameter	Expected Sign	*TRD_ETR* as dependent variable		*TRD_CETR* as dependent variable	
			Coefficient	t-value	Coefficient	t-value
Intercept		none	0.174	2.31	0.009	0.09
NEIT	β_1	−	-0.024	-1.16	-0.092 ***	-3.52
SOE	β_2	+/−	0.005	0.50	0.022	1.15
SLE	β_3	+/−	0.076 **	1.79	0.075 *	1.41
FIE	β_4	−	0.001	0.19	0.025	0.42
*NEIT*SOE*	β_5	−	-0.033	-0.49	-0.013	-0.37
*NEIT*SLE*	β_6	−	-0.078 *	-1.46	-0.107 *	-1.60
*NEIT*FIE*	β_7	−	-0.065	-0.23	-0.008	-0.09
DA		+	0.005	0.22	-0.042	-1.53
IAR		none	1.114 ***	3.47	0.676 *	1.68
TS		none	0.781	1.1	-0.127	-0.14
TDL		none	5.433	0.28	4.814	0.2
EL		none	-0.137	-0.98	-0.494 ***	-2.82
FAD		none	0.001	0.02	0.052	0.93
TIMP		none	1.240 ***	4.02	1.100 ***	2.84
SRVSA		none	9.286	1.57	6.455	0.87
LOSS		+	0.032 **	2.21	-0.018	-1.01
IVR		none	0.525 **	2.58	0.269	1.05
IA		none	-0.010	-0.14	-0.295 ***	-3.09
FA		none	0.026	0.69	-0.028	-0.6
INV		none	-0.005	-0.13	-0.026	-0.5
LI		none	0.137 **	2.08	-0.143 *	-1.72
LEV		none	0.054 *	1.82	-0.056	-1.5
SIZE		none	-0.002	-0.5	0.023 ***	3.96
Industry Fixed Effect		none	yes		yes	
F-value			5.83 ***		4.18 ***	
Adjusted R^2			0.1588		0.1107	
Tests for H2-2 and H3-2						
H2-2: β_3-β_2>0			0.071 ***	3.55	0.053 *	1.49
H3-2: β_6-β_5<0			-0.045 *	-1.52	-0.094 ***	-2.56

Note: ***, **, and * indicate significance at 1%, 5%, and 10% levels, respectively; one-tailed where signs are predicted, two-tailed otherwise.

In Table 6, we also find evidences to support H1, H2-1b, H2-2, H3-1b, H3-2, and H3-3 for the applicable tax rate decreased subsample. Among firms within the *TR* decreased subsample, such downward tax avoidance incentives tend to be more obvious for those with a greater percentage of *SLE* in the new tax regime.

Table 6. Regression results for tax avoidance on new tax law and firm ownership

Panel A: book-tax differences as dependent variables
subsample of applicable tax rate decreased firms (N=1,318)

Variables	Parameter	Expected Sign	*BTD* as dependent variable		*ABTD* as dependent variable	
			Coefficient	t-value	Coefficient	t-value
Intercept		none	-0.044	-0.68	0.151 ***	3.29
NEIT	β_1	−	-0.028 **	-1.92	0.003	0.25
SOE	β_2	+/−	0.061 *	1.58	0.041 *	1.50
SLE	β_3	+/−	0.145 ***	3.35	0.083 ***	2.73
FIE	β_4	−	-0.058	-0.44	-0.053	-0.56
*NEIT*SOE*	β_5	−	-0.078 *	-1.63	-0.069 *	-1.61
*NEIT*SLE*	β_6	−	-0.238 ***	-3.89	-0.145 ***	-2.94
*NEIT*FIE*	β_7	−	0.004	0.02	0.024	0.13
DA		+	0.006	1.46	0.004	1.32
IAR		none	-0.689 ***	-4.86	0.559 ***	5.63
TS		none	0.401	0.99	-0.012	-0.04
TDL		none	0.282	0.21	0.359	0.39
EL		none	0.384 ***	17.68	-0.152 ***	-9.97
FAD		none	-0.025	-0.71	-0.015	-0.61
TIMP		none	-2.255 ***	-25.08	1.441 ***	22.85
SRVSA		none	-4.638	-1.24	6.387 **	2.43
LOSS		+	-0.027 **	-2.13	0.018 **	2.1
IVR		none	0.539 ***	3.9	-0.222 **	-2.29
IA		none	-0.138 **	-2.32	0.000	0.01
FA		none	0.064 *	1.93	-0.055 **	-2.38
INV		none	-0.016	-0.43	-0.049 *	-1.91
LI		none	-0.073	-1.35	0.042	1.09
LEV		none	-0.011	-1.19	0.054 ***	8.18
SIZE		none	0.001	0.35	-0.010 ***	-3.50
Industry Fixed Effect		none	yes		yes	
F-value			23.60 ***		24.07 ***	
Adjusted R^2			0.4695		0.4746	
Tests for H2-2 and H3-2						
H2-2: β_3-β_2>0			0.084 *	1.38	0.042 *	1.54
H3-2: β_6-β_5<0			-0.160 **	-2.06	-0.076 *	-1.36

Note: ***, **, and * indicate significance at 1%, 5%, and 10% levels, respectively; one-tailed where signs are predicted, two-tailed otherwise.

Table 6. Regression results for tax avoidance on new tax law and firm ownership

Panel B: tax rate differences as dependent variables

subsample of applicable tax rate decreased firms (N=1,318)

Variables	Parameter	Expected Sign	*TRD_ETR* as dependent variable		*TRD_CETR* as dependent variable	
			Coefficient	t-value	Coefficient	t-value
Intercept		none	0.328 ***	3.86	0.087	0.79
NEIT	β_1	−	-0.108 ***	-2.84	-0.081 ***	-1.67
SOE	β_2	+/−	0.085	1.04	0.137 *	1.32
SLE	β_3	+/−	0.155 **	1.66	0.221 **	1.82
FIE	β_4	−	0.015	0.80	0.087	0.93
*NEIT*SOE*	β_5	−	-0.114 *	-1.64	-0.065 *	-1.34
*NEIT*SLE*	β_6	−	-0.137 *	-1.40	-0.150 **	-1.67
*NEIT*FIE*	β_7	−	-0.237	-1.10	-0.022	-0.95
DA		+	-0.012	-0.35	0.021	0.47
IAR		none	0.625 *	1.75	-0.326	-0.70
TS		none	0.006	0.01	-0.784	-0.67
TDL		none	21.812	1.64	-12.453	-0.72
EL		none	0.326	1.07	0.246	0.62
FAD		none	-0.052	-1.01	0.120 *	1.79
TIMP		none	0.996 ***	2.87	0.792 *	1.76
SRVSA		none	-13.058 *	-1.68	2.327	0.23
LOSS		+	-0.012	-0.58	0.001	0.12
12 IVR		none	-0.213	-0.84	-0.470	-1.42
IA		none	-0.058	-0.67	-0.210 *	-1.87
FA		none	0.059	1.40	-0.037	-0.67
INV		none	-0.040	-0.82	-0.088	-1.38
LI		none	0.258 ***	3.26	0.134	1.31
LEV		none	0.019	0.59	0.013	0.31
SIZE		none	-0.009 *	-1.81	0.010	1.58
Industry Fixed Effect		none	yes		yes	
F-value			3.47 ***		2.85 ***	
Adjusted R^2			0.1021		0.0785	
Tests for H2-2 and H3-2						
H2-2: β_3-β_2>0			0.070 ***	1.93	0.084 *	1.45
H3-2: β_6-β_5<0			-0.023	-1.07	-0.085 *	-1.53

Note: ***, **, and * indicate significance at 1%, 5%, and 10% levels, respectively; one-tailed where signs are predicted, two-tailed otherwise.

Table 7 shows the results for the firm-years with *TR* increased; in particular, these results are inconsistent with the findings of full sample (shown in Table 4). We find a significantly positive coefficient for *NEIT*, *SOE*, *SLE* and a significantly negative coefficient for *NEIT*SLE*. Generally, firms facing the *TR* increased have stronger incentive to conduct tax avoidance activities in the new tax regime. In addition, firms with a greater *SOE* or *SLE* engage in more tax avoidance activities, and this positive relation between *SOE* and *BTD(ABTD)/TRD_ETR(TRD_CETR)* is not declined following the enacting of the new tax law. This means that firms facing a higher tax rate in the new tax regime have no incentive to reduce their tax avoidance activities. In addition, inconsistent with H2-2, we do not find significant differences between the coefficients of *SOE* and *SLE* means that "indirect state-owned firms are engaged in more tax avoidance activities than direct state-owned firms" is not supported in *TR* increased subsample.

Table 7. Regression results for tax avoidance on new tax law and firm ownership

Panel A: book-tax differences as dependent variables
subsample of applicable tax rate increased firms (N=780)

Variables	Parameter	Expected Sign	*BTD* as dependent variable		*ABTD* as dependent variable	
			Coefficient	t-value	Coefficient	t-value
Intercept		none	0.064	0.75	0.039	0.54
NEIT	β_1	+	0.055 *	1.60	0.043 *	1.49
SOE	β_2	+/−	0.109 *	1.46	0.090 *	1.41
SLE	β_3	+/−	0.205 ***	2.39	0.122 **	1.68
FIE	β_4	−	0.055	0.39	0.121	1.01
*NEIT*SOE*	β_5	−	-0.074	-1.01	-0.080	-1.19
*NEIT*SLE*	β_6	−	-0.240 ***	-2.58	-0.135 **	-1.71
*NEIT*FIE*	β_7	−	-0.028	-0.15	-0.034	-0.22
DA		+	0.008 ***	2.35	0.008 **	2.73
IAR		none	-0.580 ***	-6.27	-0.480 ***	-6.11
TS		none	-0.178	-0.57	-0.125	-0.47
TDL		none	0.252	0.09	0.900	0.37
EL		none	-0.189 ***	-3.01	-0.182 ***	-3.42
FAD		none	-0.019	-0.38	-0.016	-0.38
TIMP		none	-1.997 ***	-10.85	-1.981 ***	-12.65
SRVSA		none	4.273 **	1.96	4.317 **	2.33
LOSS		+	0.050 ***	3.04	0.008	0.58
IVR		none	1.443 ***	13.05	1.387 ***	14.74
IA		none	-0.128	-1.49	-0.026	-0.35
FA		none	-0.073	-1.64	0.024	0.64
INV		none	-0.078 *	-1.76	0.020	0.53
LI		none	-0.074	-1.26	-0.012	-0.24
LEV		none	-0.015	-1.42	-0.018 **	-1.99
SIZE		none	-0.001	-0.25	-0.003	-0.72
Industry Fixed Effect		none	yes		yes	
F-value			12.59 ***		15.13 ***	
Adjusted R^2			0.4774		0.5271	
Tests for H2-2 and H3-2						
H2-2: β_3-β_2>0			0.096	0.84	0.032	0.33
H3-2: β_6-β_5<0			-0.170 *	1.44	-0.055 *	1.52

Note: ***, **, and * indicate significance at 1%, 5%, and 10% levels, respectively; one-tailed where signs are predicted, two-tailed otherwise.

Table 7. Regression results for tax avoidance on new tax law and firm ownership

Panel B: tax rate differences as dependent variables

subsample of applicable tax rate increased firms (N=780)

Variables	Parameter	Expected Sign	*TRD_ETR* as dependent variable		*TRD_CETR* as dependent variable	
			Coefficient	t-value	Coefficient	t-value
Intercept		none	0.270 ***	2.4	0.165	1.24
NEIT	β_1	+	0.053	1.24	0.095 **	1.85
SOE	β_2	+/−	0.061	0.52	0.058	0.52
SLE	β_3	+/−	0.230 **	1.66	0.192 *	1.59
FIE	β_4	−	0.190	-0.72	0.148	0.70
*NEIT*SOE*	β_5	−	-0.080	-0.53	-0.001	-0.03
*NEIT*SLE*	β_6	−	-0.100	-0.81	-0.131	-0.94
*NEIT*FIE*	β_7	−	-0.159	-0.54	-0.141	-0.52
DA		+	-0.023	-0.75	-0.036	-0.99
IAR		none	0.606	1.37	-0.072	-0.14
TS		none	-1.320	-1.33	-0.411	-0.35
TDL		none	33.734 ***	2.44	10.169	0.62
EL		none	0.142	0.73	0.117	0.50
FAD		none	0.077	1.18	0.108	1.39
TIMP		none	0.292	0.62	0.096	0.17
SRVSA		none	-8.106	-1.13	-22.094 ***	-2.60
LOSS		+	0.021	1.01	0.027	1.06
IVR		none	-0.116	-0.49	-0.231	-0.81
IA		none	0.100	0.82	-0.022	-0.15
FA		none	0.044	0.78	0.116	1.71
INV		none	0.010	0.17	0.148 **	2.07
LI		none	0.285 ***	3.32	0.338 ***	3.31
LEV		none	-0.001	-0.03	-0.070	-1.36
SIZE		none	-0.010	-1.50	0.005	0.63
Industry Fixed Effect		none	yes		yes	
F-value			3.00 ***		2.70 ***	
Adjusted R^2			0.1360		0.1178	
Tests for H2-2 and H3-2						
H2-2: β_3-β_2<0			0.169 *	1.48	0.134	1.37
H3-2: β_6-β_5>0			-0.020	-0.69	-0.130	-1.29

Note: ***, **, and * indicate significance at 1%, 5%, and 10% levels, respectively; one-tailed where signs are predicted, two-tailed otherwise.

As an additional check, we repeat the regressions in Table 4 using permanent book-tax differences (*PBTD*) and abnormal permanent book-tax differences (*APBTD*) as proxies for tax avoidance following Frank et al. (2009). We derive permanent book-tax differences from total book-tax differences less temporary book-tax differences where temporary book-tax differences are derived from deferred tax expense divided by statutory tax rate. Table 8 shows the similar results to those reported in Table 4, suggesting that our hypotheses are still supported by using other tax avoidance measures. In untabulated results, we extend our research period from 2007-2009 to 2007-2012, the latter shows the similar results to those reported in Table 4, suggesting that our hypotheses are still supported by using another sample period.

Table 8. Regression results for permanent book-tax differences on new tax law and firm ownership

Full Sample (N=3,657)						
Variables	Parameter	Expected Sign	*PBTD* as dependent variable		*APBTD* as dependent variable	
			Coefficient	t-value	Coefficient	t-value
Intercept		none	-0.021	-0.42	0.023	0.58
NEIT	β_1	−	-0.044***	-2.58	-0.013	-0.97
SOE	β_2	+/−	0.083**	2.27	0.085*	1.37
SLE	β_3	+/−	0.189***	4.53	0.104***	3.09
FIE	β_4	−	0.062	0.61	0.098	1.13
*NEIT*SOE*	β_5	−	-0.056*	-1.39	-0.056*	-1.41
*NEIT*SLE*	β_6	−	-0.173***	-3.57	-0.116***	-2.95
*NEIT*FIE*	β_7	−	-0.157	-1.17	-0.113	-1.05
DA		+	0.013***	4.26	0.001	0.07
IAR		none	-0.796***	-17.82	-0.193	-5.35
TS		none	0.188	0.72	-0.202	-0.96
TDL		none	-0.615	-0.71	-0.391	-0.56
EL		none	0.347***	15.58	0.003	0.18
FAD		none	0.002	0.08	0.027	1.2
TIMP		none	-1.211***	-15.45	-0.843	-13.3
SRVSA		none	3.336*	1.94	1.752	1.26
LOSS		+	-0.020**	-1.98	0.036	4.32
IVR		none	0.719***	7.58	0.722	9.42
IA		none	-0.055	-1.18	0.041	1.1
FA		none	0.090***	3.52	0.025	1.2
INV		none	0.070**	2.49	0.040	1.76
LI		none	-0.067	-1.63	-0.052	-1.59
LEV		none	-0.088***	-12.07	-0.007	-1.26
SIZE		none	0.001	0.49	-0.005	-2.04
Industry Fixed Effect		none	yes		yes	
F-value			26.74***		7.94***	
Adjusted R^2			0.3004		0.1037	
Tests for H2-2 and H3-2						
H2-2: β_3-β_2>0			0.106**	1.89	0.019*	1.56
H3-3: β_6-β_5<0			-0.117**	-1.83	-0.060*	-1.29

Note: ***, **, and * indicate significance at 1%, 5%, and 10% levels, respectively; one-tailed where signs are predicted, two-tailed otherwise.

5. Conclusions and Suggestions

This study extends the existing literature by examining the impact of the new tax law and different ownership structure on tax avoidance behavior of listed firms in China. Our empirical findings are summarized as follows. First, firms conduct fewer tax avoidance activities after the enacting of the new tax law. Second, government-controlled firms engage in more tax avoidance activities; meanwhile, these firms reduce tax avoidance behavior under the new tax regulatory regime. These results indicate that fair and effective tax regulations can somehow restrain the tax avoidance behavior for government-controlled firms. Third, indirect state-owned firms have a complicated relationship to easily conduct more tax avoidance activities compared to direct state-owned firms. Finally, we do not find a significant relationship between the foreign shareholding percentage and tax avoidance behavior.

In applicable income tax rate unchanged and decreased subsamples, we find similar results as the findings of full sample. However, these results are not consistent with our hypotheses in the applicable tax rate increased subsample. Facing increased applicable tax rate, firms engage in more tax avoidance activities following the

enacting of new tax law. From a tax policy perspective, our empirical evidence helps to clarify the impacts of the 2008 tax reforms. These results show that, due to the decrease of statutory tax rate and enacting GAAR under the new tax law, listed firms employ less tax avoidance activities. Even though Chinese tax authorities experienced a lot of challenges pertaining to the optimal way to administer GAAR in terms of application and interpretation, we find significant improvement in restraining tax avoidance behavior during the new tax regime.

Our results are consistent with the argument of Desai and Dharmapala (2006), who note that complex tax avoidance transactions can provide management with the tools, masks, and justifications for opportunistic managerial behaviors, such as earnings manipulation, related party transactions, and other resource-diverting activities. Firms with greater shares held by state shoulder more government responsibility; however, these firms also manipulate the market by misleading public investors or engaging in insider trading. These opportunistic managerial behaviors are facilitated by tax avoidance (Desai, 2005). However, after the 2008 tax reforms, the positive relationship between state-owned shares and tax avoidance behaviors is mitigated, especially for firms with predominantly indirect state-owned shares.-

This study proposes a broader perspective for the Chinese tax authority regarding all anti-avoidance actions; we confirm that GAAR and other anti-avoidance rules can effectively restrain additional tax avoidance behaviors of government-controlled firms. In addition, creating more specific regulations including detailed preferential tax treatment and anti-avoidance implementation rules can help to prevent tax avoidance behaviors and investigate alleged cases.

In 2007, the Chinese government adopted the New Chinese Accounting Standards. The new standards largely revise the recognitions on revenues and expenses which affect the amount of book-tax differences. Thus, our sample period starts from 2007 to avoid the potential effect of the change in accounting standards on measurement of tax avoidance. This leads to our observations contain only one year under old tax regulatory regime that is an inevitable limitation. Future extensions of this study include an investigation on whether the executives of firms with more government-controlled shares benefit from making tax avoidance behavior in terms of compensation, political promotions or career advancements.

References

Amir, E, & Sougiannis, T. (1999). Analysts' interpretation and investors' valuation of tax carry forwards. *Contemporary Accounting Research, 16*, 1–33. https://doi.org/10.1111/j.1911-3846.1999.tb00572.x

Badertscher, B., Phillips, J. D., Pincus, M., & Rego, S. O. (2009).Earnings management strategies and the trade-off between tax benefits and detection risk: To conform or not to conform? *The Accounting Review*, 84(1), 83–97. http://dx.doi.org/10.2308/accr.2009.84.1.63

Bai, C. E., Liu, Q., Lu, J., Song, F. M., & Zhang, J. (2004). Corporate governance and market valuation in China. *Journal of Comparative Economics, 32*(4), 599–616. https://doi.org/10.1016/j.jce.2004.07.002

Bushman, R. M., & Piotroski, J. D. (2006). Financial reporting incentives for conservative accounting: the influence of legal and political institutions. *Journal of Accounting and Economics, 42*, 107–148. https://doi.org/10.1016/j.jacceco.2005.10.005

Bushman, R. M., Piotroski, J. D., & Smith, A. J. (2004). What determines corporate transparency? *Journal of Accounting Research, 42*, 207–252. https://doi.org/10.1111/j.1475-679X.2004.00136.x

Chan, K. H., Mo, P. L. L., & Zhou, A. Y. (2013). Government ownership, corporate governance and tax aggressiveness: Evidence from China. *Accounting and Finance, 53*, 1029–1051. https://doi.org/10.1111/acfi.12043

Chang, E. C., & Wong, S. M. L. (2004). Political control and performance in China's listed firms. *Journal of Comparative Economics, 32*(4), 617–631. https://doi.org/10.1016/j.jce.2004.08.001

Chang, M. L., & Huang, J. T. (2013). The impact of reforms for enterprise income tax law in China. *Mainland China Studies, 2*, 79–113. https://doi.org/10.6229/CPSR.2008.45.02

Chen, G., Firth, M., & Xu, L. (2009). Does the type of ownership control matter? Evidence from China's listed companies. *Journal of Banking and Finance, 33*, 171–181. https://doi.org/10.1016/j.jbankfin.2007.12.023

Chen, K. P., & Chu, C. Y. C. (2005). Internal control versus external manipulation: a model of corporate income tax evasion. *The RAND Journal of Economics, 36*, 151–164. https://doi.org/10.2139/ssrn.353860

Chen, S., Chen, X., Cheng, Q., & Shevlin, T. (2010). Are family firms more tax aggressive than non-family firms? *Journal of Financial Economics, 95*, 41–61. https://doi.org/10.1016/j.jfineco.2009.02.003

Cheng, S., & Shi, S. (2012). The impact of new income tax law on foreign invested enterprises in China. *International Tax Journal, 38*, 17–24.

Cheung, D. (2012). An update on general anti-tax avoidance rules in China. *International Tax Journal, 38*, 35–44.

Cho, M. (1998). Ownership structure, investment, and the corporate value: An empirical analysis. *Journal of Financial Economics, 47*(1), 103–121. https://doi.org/10.1016/S0304-405X(97)00039-1

Crocker, K. J., & Slemrod, J. (2005). Corporate tax evasion with agency costs. *Journal of Public Economics, 89*, 1593–1610. https://doi.org/10.1016/j.jpubeco.2004.08.003

Cull, R., & Xu, L. C. (2005). Institutions, ownership, and finance: The determinants of profit reinvestment among Chinese firms. *Journal of Financial Economics, 77*(1), 117–146. https://doi.org/10.2139/ssrn.550504

Dechow, P. M., Sloan, R. G., & Sweeney, A. P. (1995). Detecting earnings management. *The Accounting Review, 70*(2), 193–225.

Desai, M. (2005). The degradation of reported corporate profits. *The Journal of Economic Perspectives, 19*, 171–193. https://doi.org/10.2139/ssrn.758144

Desai, M., & Dharmapala, D. (2006). Corporate tax management and high-powered incentives. *Journal of Financial Economics, 79*(1),145–179. https://doi.org/10.1016/j.jfineco.2005.02.002

Desai, M., & Dharmapala, D. (2009). Corporate tax avoidance and firm value. *Review of Economics and Statistics, 91*(3), 537–546. https://doi.org/10.1162/rest.91.3.537

Dong, X., & Putterman, L. (2003). Soft budget constraints, social burdens, and labor redundancy in China's state industry. *Journal of Comparative Economics, 31*(1), 110–133. https://doi.org/10.1016/S0147-5967(02)00012-4

Frank, M. M., Lynch, L., & Rego, S. O. (2009). Tax reporting aggressiveness and its relation to aggressive financial reporting. *The Accounting Review, 84*(2), 467-496. https://doi.org/10.2308/accr.2009.84.2.467

Guedhami, O., Pittman, J. A., & Saffar, W. (2009). Auditor choice in privatized firms: empirical evidence on the role of state and foreign owners. *Journal of Accounting and Economics, 48*, 151–171. https://doi.org/10.1016/j.jacceco.2009.08.003

Guenther, D. A. (1994). Earnings management in response to corporate tax rate changes: Evidence from the 1986 Tax Reform Act. *The Accounting Review, 69*(1), 230–243.

Gul, F. A. (1999). Government share ownership, investment opportunity set and corporate policy choices in China. *Pacific Basin Finance Journal, 7*(2), 157–172. https://doi.org/10.1016/S0927-538X(99)00004-9

Haber, S. (2002). *Crony Capitalism and Economic Growth in Latin America: Theory and Evidence*. Hoover Institution Press, Stanford.

Hanlon, M. (2003). What can we infer about a firm's taxable income from its financial statement? *National Tax Journal, 56*(4), 831–864. https://doi.org/10.17310/ntj.2003.4.07

Hanlon, M. (2005). The persistence and pricing of earnings, accruals and cash flows when firms have large book tax differences. *The Accounting Review, 80*(1), 137–166. https://doi.org/10.2308/accr.2005.80.1.137

Hanlon, M., & Slemrod, J. (2009). What does tax aggressiveness signal? Evidence from stock price reactions to news about tax shelter involvement. *Journal of Public Economics, 93*, 126–141. https://doi.org/10.1016/j.jpubeco.2008.09.004

Huang, D. F., & Chang, M. L. (2016). Do Auditor-Provided Tax Services Improve the Relation between Tax-Related Internal Control and Book-Tax Differences? *Asia-Pacific Journal of Accounting & Economics, 23*(2), 177 – 199. http://dx.doi.org/10.1080/16081625.2014.1003570

Ip, P.K. (2008). Corporate social responsibility and crony capitalism in Taiwan. *Journal of Business Ethics, 79*, 167-177. https://doi.org/10.1007/s10551-007-9385-5

Jiang, Y.H., & Wei , J. G. (2001). *Empirical Study on Financial and Accounting Problems of China Listed Companies*. Dong Bei University of Finance and Economics Press, Dalian.

Khan, M., Srinivasan, S., & Tan, L. (2017). Institutional Ownership and Corporate Tax Avoidance: New Evidence. *The Accounting Review, 92*(2), 101-122. https://doi.org/10.2308/accr-51529

Kim, J., Y. Li, & Zhang, L. (2011). Corporate tax avoidance and stock price crash risk: Firm-level analysis. *Journal of Financial Economics, 100*(3), 639–622. https://doi.org/10.1016/j.jfineco.2010.07.007

Krugman, P. (2002). Crony capitalism, USA.*The New York Times*, January 15.

La Porta, R., Lopez F., & Shleifer.A. (1999). Corporate Ownership around the world. *Journal of Finance, 54*(2), 471–517. https://doi.org/10.1111/0022-1082.00115

Lanis, R., & Richardson, G. (2012). Corporate social responsibility and tax aggressiveness: An empirical analysis. *Journal of Accounting and Public Policy, 31*(1), 86–108. https://doi.org/10.1016/j.jaccpubpol.2011.10.006

Lin, B., Lu, R. & Zhang, T. (2012). Tax-induced earnings management in emerging markets: Evidence from China. *The Journal of the American Taxation Association, 34*(2), 19–44. https://doi.org/10.2308/atax-10236

Liu, Q., & Lu, Z. (2007). Corporate governance and earnings management in the Chinese listed companies: A tunneling perspective. *Journal of Corporate Finance, 13*(5), 881–906. https://doi.org/10.1016/j.jcorpfin.2007.07.003

MacIntyre, A. (2006). Crony capitalism in East Asia: Has anything changed? Electronic Draft Access in August 2006 at http://www.crawford.anu.edu.au/pdf/east-asia10/ macIntyre.pdf.

Manzon, G., & Plesko, G. (2002). The relation between financial and tax reporting measures of income. *Tax Literature Review, 55*, 175–214. https://doi.org/10.2139/ssrn.264112

McGill, G. A., & Outslay, E. (2004). Lost in translation: Detecting tax shelter activity in financial statement. *National Tax Journal, 57*(3), 739–756. https://doi.org/10.17310/ntj.2004.3.13

Mills, L. F. (1998). Book-tax differences and internal revenue service adjustments. *Journal of Accounting Research, 36*(2), 343–356. https://doi.org/10.2307/2491481

Mills, L. F., & Newberry, K. (2001). The influence of tax and non-tax costs on book-tax reporting differences: Public and private firms. *The Journal of the American Taxation Association, 23*(1), 1–19. https://doi.org/10.2308/jata.2001.23.1.1

Mills, L. F., & Sansing, R. C. (2000). Strategic tax and financial reporting decisions: Theory and evidence. *Contemporary Accounting Research, 17*(1), 85–106. https://doi.org/10.1111/j.1911-3846.2000.tb00912.x

Morck, R., Schleifer, A., & Vishny, R. (1988). Management ownership and market valuation: An empirical analysis. *Journal of Financial Economics, 20*(1), 293–315. https://doi.org/10.1016/0304-405X(88)90048-7

Ng, C. Y. M. (2013). International tax planning considerations and strategies: investing into and out of China. *International Tax Journal, 39*, 23–34.

Phillips, J., M. Pincus, & Rego, S. O. (2003). Earnings management: New evidence based on deferred tax expense. *The Accounting Review, 78*(2), 491–521. https://doi.org/10.2308/accr.2003.78.2.491

Plesko, G. (2004). Corporate tax avoidance and the properties of corporate earnings. *National Tax Journal, 57*, 729–737. https://doi.org/10.17310/ntj.2004.3.12

Qi, D., Wu, W., & Zhang, H. (2000). Shareholding structure and corporate performance of partially privatized firms: Evidence from listed Chinese companies. *Pacific-Basin Finance Journal, 8*(5), 587–610. https://doi.org/10.1016/S0927-538X(00)00013-5

Scholes, M. S., Wilson, G. P, & Wolfson, M. A. (1992). Firms' responses to anticipated reductions in tax rates: The Tax Reform Act of 1986. *Journal of Accounting Research, 30*(Supplement): 161–185. https://doi.org/10.2307/2491200

Seidman, J. (2010). Interpreting the book-tax income gap as earnings management or tax sheltering. Working paper. The University of Texas at Austin. https://doi.org/10.2139/ssrn.1564253

Shevlin, T. (2002). Commentary: corporate tax shelters and book-tax differences. *Tax Law Review, 55*, 427–443.

Shleifer, A., & Vishny, R. (1994). Politicians and firms. *The Quarterly Journal of Economics, 109*, 995–1025. https://doi.org/10.2307/2118354

Sun, H., D. Yuen, & Zhang, X. (2012). Government-business relationship and tax avoidance: evidence from China. *2nd Annual International Conference on Accounting and Finance*, (AF2012), 37–44. https://doi.org/10.5176/2251-1997_AF62

Tang, T., & Firth, M. (2011). Can book-tax differences capture earnings management and tax management? Empirical evidence from China. *The International Journal of Accounting, 46*(2), 175–204. https://doi.org/10.1016/j.intacc.2011.04.005

Wang, Q., Wong, T. J., & Xia, L. (2008). State ownership, the institutional environment, and auditor choice: evidence from China. *Journal of Accounting and Economics, 46*, 112–134. https://doi.org/10.1016/j.jacceco.2008.04.001

Wei, G., & Geng, M. (2008). Ownership structure and corporate governance in China: some current issues. *Managerial Finance, 34*(12), 934-952. https://doi.org/10.1108/03074350810915860

Wei, Z., Xie, F., & Zhang, S. (2005.) Ownership structure and firm value in China's privatized firms: 1991–2001. *Journal of Financial and Quantitative Analysis, 40*(1), 87-108. https://doi.org/10.1017/S0022109000001757

Wilson, R. J. (2009). An examination of corporate tax shelter participants. *The Accounting Review, 84*(3), 969–999. https://doi.org/10.2308/accr.2009.84.3.969

Yi, X. R. (1997). *Introduction of Modern Contract Economics*. China Social Science Press, Beijing.

Zeng, T. (2011). Ownership concentration, state ownership, and effective tax rates: Evidence from China's listed firms. *Accounting Perspectives, 9*, 271–289. https://doi.org/10.1111/j.1911-3838.2010.00014.x

Zhang, L. G., Kadet, J., & Ye, B. (2007). China enacts unified enterprise income tax law. *Tax Management International Journal, 36*(6), 275–278.

Zhang, M., Gao, S., Guan, X., & Jiang, F. (2014). Controlling Shareholder-Manager Collusion and Tunneling: Evidence from China. *Corporate Governance: An International Review, 22*(6), 440–459. https://doi.org/10.1111/corg.12081

Zou, H., & Adams, M. B. (2008). Corporate ownership, equity risk and returns in the People's Republic of China. *Journal of International Business Studies, 39*, 1149–1168. https://doi.org/10.1057/palgrave.jibs.8400394

Notes

Note 1. Tax avoidance is the legitimate minimizing of taxes, using methods approved by the tax law. Hanlon and Heitzman (2010) view tax avoidance as a continuum of tax planning strategies that range from perfectly legal real transactions at one end (e.g., investments in tax-favored assets or setting up employee retirement plans) to aggressive tax avoidance practices (e.g., tax shelters) at the other end. Tax evasion, on the other hand, is the illegal practice of not paying taxes, by not reporting income, reporting expenses not legally allowed, or by not paying taxes owed.

Note 2. Ng (2013) points out some examples about the opportunistic behaviors of foreign-invested firms: many foreign-invested firms tried to close down their operation after a five-year "honeymoon holiday" and opened up a new business so as to start a "new meter" for another fresh "Two plus Three Years Tax Holiday". Another common tactic was that some foreign-invested firms always reported losses, despite the fact that they had ongoing and expanding operations, so as to enjoy continuous tax exemption and avoid kicking off the "Tax Holiday" meter.

Note 3. According to the Notice of the State Council on the Implementation of the Transitional Preferential Policies in Respect of Enterprise Income Tax, released on December 26, 2007, the following tax rates apply: for a foreign-invested firm with a tax rate of 15% under the foreign tax law, the applicable tax rate for the five year period from 2008 to 2012 is 18%, 20%, 22%, 24% and 25%, respectively; for a foreign-invested firm with a tax rate of 24% under the old law, the applicable tax rate is 25% from 2008 onwards. These grandfathering rules provide a much needed adjustment period so that the effect of upward tax rate changes on many foreign-invested firms in China can be gradually phased out.

Note 4. Chinese government initiated the split-share reforms of listed firms in 2005. The state and legal entities shares became tradable after the end of a lock-up period. For most firms the lock-up period is ended in August, 2007 and the shareholders can then sell up to 5% of their shares in the following six months. About 1,300 listed firms have completed or embarked on the process of share splitting reforms by the end of 2007.

Note 5. Foreign-invested firms located in Coastal Economic Zones and Economic and Technological Development Zones enjoy a rate of 24%, and those located in Special Economic Zones, Pudong and Western Areas enjoy a tax rate of 15%.

Note 6. Designated by China Securities Regulatory Commission for Information disclosure website, CNINF (http://www.cninfo.com.cn/) disclosures the financial report of listed companies in China.

Note 7. The Chinese government adopted the New Chinese Accounting Standards (new-CAS) in 2007. The old Chinese Accounting Standards (old-CAS) were replaced by new-CAS. The new-CAS largely revises the recognition regulation of revenue/benefit and expense/cost which affect the amount of net income, and therefore, influencing the degree of book-tax differences. To avoid the reforms of accounting standard affect the measure of book-tax differences, our sample period starts from 2007.